

DOCKET: CU-2751

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Yoshihiro KONO)

SERIAL NO: 10/006,458)

FILED: December 6, 2001)

) Group Art Unit: 2873

) Examiner: Harrington, A.

TITLE: WORKING METHOD OF DIE FOR USE FOR FRESNEL LENS,
CUTTING TOOL FOR USE WITH THE WORKING METHOD, DIE
WORKED THROUGH EXECUTION OF THE WORKING METHOD,
AND FRESNEL LENS WORKED FROM THE DIE

AMENDED CLAIMS

1. (Original) A working method of a die for use for a Fresnel lens, the method being intended to work in an original die plate a Fresnel molding groove having wall surfaces corresponding to a lens surface and a non-lens surface of the Fresnel lens,

wherein there is used a cutting tool in which one piece of edge line continuing to a blade end is constructed as a cutting edge;

and the blade end has formed therein a notched portion which connects the one piece of edge line and another piece of edge line,

whereby while a relative rotating movement around a center line of the die is being made between the cutting tool and the original die plate, the cutting tool goes on to be fed into the original die plate with the cutting edge being used as a leading blade so that the wall surface corresponding to the non-lens surface of the Fresnel molding groove is gradually cut from an upper end thereof by the notched portion.

2. (Original) The working method according to claim 1, wherein a concavities/convexities configuration of cutting trace is formed in the wall surface by the notched portion.

3. (Currently amended) A cutting tool which is intended to work in an

original die plate a Fresnel molding groove having wall surfaces which respectively correspond to a lens surface and a non-lens surface of a Fresnel lens, the cutting tool having a blade end and a pair of edge lines continuing to the blade end,

wherein one piece of edge line is constructed as a cutting edge for cutting the wall surface corresponding to the lens surface of the Fresnel molding groove; and the blade end has provided therein a notched portion to cut the wall surface corresponding to the non-lens surface in such a way as to connect the one piece of edge line and another piece of edge line.

4. (Original) A die for working a Fresnel lens, comprising a Fresnel molding grooves which has been worked by the working method of claim 1.

5. (Original) The die for working Fresnel lens according to claim 4, wherein in the wall surface corresponding to the non-lens surface of the Fresnel molding groove there exists a concavities/convexities configuration of cutting trace which has been formed by the notched portion of the cutting tool having passed over that wall surface.

6. (Original) A Fresnel lens comprising lens surfaces and non-lens surfaces, wherein there is provided on at least one of non-lens surfaces a concavities/convexities portion based on a cutting trace which is formed at the time of working a die.

Al
enc